

FINE STRUCTURE OF ANTENNAL SENSILLA IN EMERALD ASH BORER (COLEOPTERA: BUPRESTIDAE)

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ABSTRACT

The antennal sensilla of the emerald ash borer, *Agrilus planipennis* Fairmaire (Coleoptera: Buprestidae), were examined using scanning and transmission electron microscopy. Male and female antennae have a scape, pedicel, and nine flagellomeres. Both male and female antennae share five sensillum types: sensilla chaetica (mechanoreceptors), three types of sensilla basiconica (olfactory), and uniporous gustatory/taste sensilla. Apical depressions containing large sensory fields of uniporous sensilla were seen on the eight most distal flagellomeres

of both sexes. Counts of sensillum types showed that males possessed significantly more uniporous sensilla than females. We hypothesize that antennal contact is important for mate recognition by male *A. planipennis*. The distal apices of the eight outer flagellomeres were seen to have “tufts” composed of two types of sensilla basiconica. A third type of sensilla basiconica was observed within the perimeter of the uniporous sensory fields. The structure and putative function of each sensillum type are discussed.